

FORM PTO, 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: April 10, 2001

ATTY DOCKET NO.

2000\_1388

SERIAL NO.

09/677,421

APPLICANT

Mitsuaki OSHIMA et al.

FILING DATE

October 5, 2000

GROUP

2614

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
Ad	AA	5,565,926	10-15-96	Bryan et al.	—	—	
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						

RECEIVED  
APR 11 2001  
Technology Center 2600

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
Ad	AJ	2-166979	6-27-90	Japan	—	—	abstract
	AK						
	AL						
	AM						
	AN						

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	
	AP	
	AQ	

EXAMINER

Amandate

DATE CONSIDERED

5.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: October 5, 2000

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
NEWAPPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000

GROUP

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AS	AA	5,311,550	5-10-94	Fouche et al.	—	—	
	AB	4,630,287	12-16-86	Armstrong	I	I	
	AC	4,271,527	6-2-81	Armstrong			
	AD	5,050,188	9-17-91	Dirr			
	AE	5,398,073	3-14-95	Wei			
	AF	5,452,015	9-19-95	Hulyalkar			
	AG	5,565,932	10-15-96	Gitta et al.			
	AH	5,481,412	1-2-96	Bannai et al.			
AS	AI	3,909,721	9-30-75	Bussgang et al.	—	—	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
AS	AJ	0365431	4-25-90	EP	—	—		X
	AK	0485105	5-13-92	EP	I	I	X	
	AL	92/14343	8-20-92	WO			X	
	AM	89/08366	9-8-89	WO			X	
AS	AN	0031193	7-1-81	EP	—	—	X	

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

AS	AO	Shinji Matsumoto et al., "200 Mb/s 16 QAM Digital Radio-Relay System Operating in 4 and 5 GHz Bands", Japan Telecommunications Review, January 1982, vol. 24, no. 1, pages 65-73.
	AP	M. Pecot et al., "Compatible Coding of Television Images, Part 2. Compatible System", Signal Processing Image Communication, October 2, 1990, no. 3, pages 259-268.
AS	AQ	Mitsuaki Oshima, "Constellation-Code Division Multiplex for Digital HDTV", IEEE, 1992, pages 1086-1092.

EXAMINER

Amandate

DATE CONSIDERED

5.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: October 5, 2000

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
NEWAPPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000

GROUP

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AS	AA	4,227,152	10-7-80	Godard et al.			
	AB	4,525,846	6-25-85	Bremer et al.			
	AC	4,751,478	6-14-88	Yoshida			
	AD	4,891,806	1-2-90	Farias et al.			
	AE	4,903,125	2-20-90	Parker			
	AF	4,937,844	6-26-90	Kao			
	AG	5,164,963	11-17-92	Lawrence et al.			
AS	AH	5,555,275	9-1996	Oshima			
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AS	AJ	0311188	4-12-89	EP			X
	AK	0329158	8-23-89	EP			X
	AL	64-5135	1-10-89	JP			X
	AM	63-28145	2-5-88	JP			X
AS	AN	62-133842	6-17-87	JP			X

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

AS	AO	Tricia Hill et al., "A Performance Study of NLA 64-State QAM", IEEE Transactions on Communications, vol. COM-31, June 1983, no. 6, pages 821-826.
	AP	Hideki Ishio et al., "A Proposal of a Carrier Digital Transmission System Using Multi-Level APSK", pages 1-20.
AS	AQ	Shanmugam, "Digital and Analog Communication Systems" 1979, p. 272.

EXAMINER

Amandate

DATE CONSIDERED

05.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: October 5, 2000

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
NEWAPPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000

GROUP

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AS	AA	5,105,442	4-14-92	Wei	I	I	
	AB	4,048,572	9-13-77	Dogliotti et al.	I	I	
	AC	5,282,019	1-25-94	Basile et al.	I	I	
	AD	5,311,547	5-10-94	Wei	I	I	
	AE	5,267,021	11-30-93	Ramchandran et al.	I	I	
	AF	5,038,219	8-6-91	Yamashita et al.	I	I	
	AG	5,087,975	2-11-92	Citta et al.	I	I	
AS	AH	5,086,340	2-4-92	Citta et al.	I	I	
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
AS	AJ	53-137657	12-1-78	JP	I	I	X	
	AK	0282298	9-14-88	Europe	I	I	X	
	AL	0392538	10-17-90	Europe	I	I	X	
	AM	0490552	6-17-92	Europe	I	I	X	
AS	AN	0506400A2	9-30-92	Europe	I	I		

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

AS	AO	Khaled Fazel et al., Combined multilevel coding and multiresolution modulation, February 8, 1993, Pages 1081-1085
	AP	P. Hoeher et al., Performance of an RCPC-Coded OFDM-based Digital Audio Broadcasting (DAB) System, IEEE Global Telecommunications Conference "Globecom '91", December 2-5, 1991, Vol. 1 of 3, Pages 2.1.1 - 2.1.7
AS	AQ	K. M. Uz et al., Combined multiresolution source coding and modulation for digital broadcast of HDTV*, 1992, Pages 283-292

EXAMINER

amandate

DATE CONSIDERED

5.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: October 5, 2000

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
NEWAPPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000

GROUP

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AS	AA	5,142,353	8-25-92	Kageyama et al.	I	I	
↓	AB	5,197,061	3-23-93	Halbert-Lassalle et al.	I	I	
↓	AC	5,291,289	3-1-94	Hulyalkar et al.	I	I	
AS	AD	5,166,924	11-24-92	Moose	I	I	
	AE						
	AF						
	AG						
	AH						
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AS	AJ	0448492A1	9-25-91	Europe	I	I	
↓	AK	0485108A2	5-13-92	Europe	I	I	
↓	AL	0525641A2	2-3-93	Europe	I	I	
↓	AM	0540231A2	5-5-93	Europe	I	I	
AS	AN	0531046A2	3-10-93	Europe	I	I	

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

AS	AO	K. M. Uz et al., Multiresolution Source and Channel Coding for Digital Broadcast of HDTV, 1992, Pages 61-69.
↓	AP	Nambi Seshadri et al., Multi-Level Block Coded Modulations with Unequal Error Protection for the Rayleigh Fading Channel, Vol. 4, No. 3, May-June 1993, Pages 325-334.
AS	AQ	William F. Schreiber, Spread-Spectrum Television Broadcasting, SMPTE Journal, August 1992, Pages 538-549.

EXAMINER

Amandate

DATE CONSIDERED

5.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: October 5, 2000

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
NEWAPPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000

GROUP

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AS	AJ	85/04541	10-10-85	WO	—	—	
	AK						
	AL						
	AM						
	AN						

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

AS	AO	Martin Vetterli et al., Multiresolution Coding Techniques for Digital Television: A Review, Multidimensional Systems and Signal Processing, Volume 3, May 1992, Pages 161-187.
↓	AP	Ezio Biglieri et al., Introduction to Trellis-Coded Modulation with Applications, April 6, 1992, Pages 173-207.
AS	AQ	English Language Abstract of European Patent No. 93 30 7575

EXAMINER

amandade

DATE CONSIDERED

05.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: October 5, 2000

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
NEWAPPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000

GROUP

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AS	AA	4,636,876	1-13-87	Schwartz	I	I	
I	AB	4,855,692	8-8-89	Kennard et al.	I	I	
I	AC	4,873,701	10-10-89	Tretter	I	I	
I	AD	4,958,360	9-18-90	Sari	I	I	
I	AE	5,115,453	5-19-92	Calderbank et al.	I	I	
AS	AF	5,168,509	12-1-92	Nakamura et al.	I	I	
	AG						
	AH						
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AS	AJ	0122805	10-24-84	EP	—	—	X
AS	AK	63-180280	7-25-88	JP	—	—	abstract
	AL						
	AM						
	AN						

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

AS	AO	Kazuhiko Nitadori, Synthesis of Multichannel Orthogonal VSB Signals by Quadrature Method, 1976 International Conference on Communications, June 14-16, 1976, Volume 1, Pages 3-25 - 3-29.
I	AP	Thomas M. Cover, Broadcast Channels, IEEE Transactions on Information Theory, January 1972, Pages 2-14
AS	AQ	"Optimum Weighted PCM for Speech Signals", Sundberg, IEEE Transactions on Communications, Volume COM-26, No. 6, June 1978, Pages 872-881.

EXAMINER

Amandate

DATE CONSIDERED

5.13.02

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: September 24, 2001

ATTY DOCKET NO.  
2000\_1388SERIAL NO.  
09/677,421APPLICANT  
Mitsuaki OSHIMA et al.FILING DATE  
October 5, 2000GROUP  
2634

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AS	AJ	04-196822	7-16-92	Japan	—	—	abstract
AS	AK	0 506 400	9-30-92	Europe	—	—	X
	AL						
	AM						
	AN						

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	
	AP	
	AQ	

EXAMINER

Amanda Le

DATE CONSIDERED

5.13.02



FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)  
(Use several sheets if necessary)

Date Submitted to PTO: January 5, 2001

ATTY DOCKET NO.  
2000\_1388

SERIAL NO.

09/677,420

RECEIVED

APPLICANT  
Mitsuaki OSHIMA et al.

JAN 09 2001

FILING DATE  
October 5, 2000Technology Center 2600  
2614

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AS	AA	5,243,629	9-7-93	Wei			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AS	AJ	64-74836	3-20-89	Japan	I	I	abstract
I	AK	53-108215	9-20-78	Japan	I	I	abstract
I	AL	63-28145	2-5-88	Japan	I	I	abstract
I	AM	64-68144	3-14-89	Japan	I	I	abstract
AS	AN	5-218978	8-27-93	Japan	I	I	X

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	
	AP	
	AQ	

EXAMINER

Amandate

DATE CONSIDERED

05.13.02